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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/863,795	05/23/2001	Thomas L. Barkley	P-1659-1	8926

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EXAMINER	
FELTON, AILEEN BAKER	
ART UNIT	**PAPER NUMBER**
3641	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/863,795	BARKLEY ET AL.	
	Examiner	Art Unit	
	Aileen B. Felton	3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-16,20-23 and 26-29* is/are pending in the application.

4a) Of the above claim(s) *13-16,20-23 and 26-29* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's election with traverse of Invention I in the reply filed on 9/13/2004 is acknowledged. The traversal is on the ground(s) that that the inventions are not distinct. This is not found persuasive because Invention I and III are distinct because the process can be used to make a detonating cord with a granular core whereas the detonating cord of claim 3 requires a solid core. Inventions I and II are also distinct because the detonating cord can be used for military purposes. Applicant argues that the process as claimed cannot be practiced with another product but this is irrelevant since only one-way distinctness is needed to restrict a product from a process of use and another process has been indicated.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 13-16, 20-23, and 26-29 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 9/13/2004.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3, 5, 8, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (3,789,759) in view of Hales et al(5,880,399).

Jones et al teach a detonating cord that is a high explosive enclosed in a sheath. The explosive can be TNT, RDX, HMX, PETN etc. (Table 1). The detonating cord can include various diluents from 1-25 % and can also include some low explosive ingredients from 1-25 % (col. 6, lines 7-25). The specific claimed diluent is not disclosed.

Hales et al teach the use of microballoons that are dispersed throughout a cast explosive composition that comprises PETN, TNT, RDX (col. 1, lines10-20). The impact sensitivity is reduced when microballoons are added. Hales teaches that this result is surprising since normally the addition of microballoons to an explosive increases the detonation and impact sensitivity of the charge, particularly in charges having small critical diameters (col. 2, lines 10-45). The microspheres can be plastic and comprise co-polymers and can be coated with other polymers or co-polymers of organic or inorganic monomers (col. 3, lines 24-40).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the microballoons as taught by Hales in place of the inert diluents present in Jones, since Hales teaches that the microballoons make the explosive less sensitive.

5. Claims 4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones(3,789,759) in view of Hales et al(5,880,399) as applied to claims 3, 5, 8, 10-12 above, and further in view of Takeuchi et al(4,547,234).

Takeuchi et al teach that it is known to use phenolic resin microspheres of average size 30 micron (col. 2, lines 9-20).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teaching of the size of the microspheres even though they are used in an emulsion explosive since one would be motivated to use other microspheres that are known and available in the explosive art.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (3,789,759) in view of Hales et al (5,880,399) as applied to claims 3, 5, 8, 10-12

Griffith teaches a detonating cord that comprises a mixtures of a high explosive and a less sensitive explosive such as ammonium nitrate and TNT(col. 5, lines 39-50).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teaching that detonating cords can be made of a high explosive and less sensitive explosive with the detonating cords disclosed by Jones since Jones suggests that other explosives can be used with the high explosive.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (3,789,759) in view of Hales et al(5,880,399) as applied to claims 3, 5, 8, 10-12 above.

Jones also discloses ammonium nitrate as a secondary explosive in Table 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use of mixture of secondary explosives (i.e. PETN and AN) that are disclosed by Jones. It is prima facie obvious to combine two compositions, each taught for the same purpose to yield a third composition for that very purpose. *In re*

Kerkhoven, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, i69 USPQ 423.

8. Claims 3, 5, 8, 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (3,789,759) in view of Driscoll(3,683,811).

Jones et al teach a detonating cord that is a high explosive enclosed in a sheath. The explosive can be TNT, RDX, HMX, PETN etc. (Table 1). The detonating cord can include various diluents from 1-25 % and can also include some low explosive ingredients from 1-25 % (col. 6, lines 7-25). The specific claimed diluent is not disclosed.

Driscoll teaches the use of 1-50 % of an inert diluent such as phenolic microballoons in an igniter composition which decreases the burning rate of the ignition composition.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the microballoons as taught by Driscoll in place of the inert diluents present in Jones, since Driscoll teaches that the microballoons make the explosive less sensitive.

9. Claims 4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (3,789,759) in view of Driscoll(3,683,811) as applied to claims 3, 5, 8, 10-12 above, and further in view of Takeuchi et al(4,547,234).

Takeuchi et al teach that it is known to use phenolic resin microspheres of average size 30 micron (col. 2, lines 9-20).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teaching of the size of the microspheres even though they are used in an emulsion explosive since one would be motivated to use other microspheres that are known and available in the explosive art.

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (3,789,759) in view of Driscoll (3,683,811) as applied to claims 3, 5, 8, 10-12 above, and further in view of Griffith (3,367,266).

Griffith teaches a detonating cord that comprises a mixture of a high explosive and a less sensitive explosive such as ammonium nitrate and TNT (col. 5, lines 39-50).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the teaching that detonating cords can be made of a high explosive and less sensitive explosive with the detonating cords disclosed by Jones since Jones suggests that other explosives can be used with the high explosive.

Response to Arguments

11. Applicant's arguments filed 8/10/2005 have been fully considered but they are not persuasive. Applicant's arguments allege unexpected results but Applicant has failed to provide any evidence of these results. It would have been obvious to use the microballoons as taught by Hales in place of the inert diluents present in Jones, since Hales teaches that the microballoons make the explosive less sensitive. In addition, the Hales patent clearly teaches that the use of microballoons results in an explosive that has increased the detonation and impact sensitivity of the charge, particularly in charges having small critical diameters. Applicant has made no showing to indicate

how this differs from the result that is obtained by the Applicant. Regarding the Takuechi reference, this reference is used to merely show that the claimed size and material is known in the explosive art and is used as a diluent. One would certainly look in the same art area to determine other useful diluents and their sizes. Also, the Driscoll patent shows the use of an inert diluent such as phenolic microballoons in an igniter composition which decreases the burning rate of the ignition composition. Applicant argues that this reference is not properly combinable with the disclosure of Jones. The Examiner disagrees, Driscoll clearly teaches the use of diluent to decrease the burn rate, which makes the composition less sensitive. The Driscoll teaching results that are exactly that which the Applicant is claiming are unexpected. Even assuming arguendo that Applicant has somehow obtained unexpected results, it seems clear that these results would not occur with any amount of the diluent and since no amounts are claimed in the independent claim, it is not clear how these alleged unexpected results could occur.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aileen B. Felton whose telephone number is 571.272.6875. The examiner can normally be reached on Monday-Friday 6:30-4:00, except alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571.272.6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Aileen Felton

AILEEN FELTON
PRIMARY EXAMINER